

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously presented) A digital broadcast receiving apparatus for receiving a broadcast signal generated by combining sub signals modulated using a PRBS (pseudo-random binary sequence) generated based on an initial value set in accordance with a frequency of a broadcast channel by a signal transmission control use signal and a main signal generated based on information source data and reproducing the information source data contained in the received broadcast signal, having

a demultiplexing circuit for demultiplexing said main signal and sub signals in the received broadcast signal,

a random sequence generating circuit for generating said PRBS based on the initial value set in accordance with the frequency of said broadcast channel,

a sub signal reproduction circuit for reproducing said demultiplexed sub signals using said PRBS,

a control circuit for controlling one or more of (i) a coding rate, which is a ratio of decoded bits of the main signal to corresponding encoded bits of the main signal, and (ii) a modulation scheme of the reproduction of said main signal in accordance with said reproduced demultiplexed sub signals, and

a decoding circuit for decoding said main signal under the control of said control circuit.

2. (Original) A digital broadcast receiving apparatus as set forth in claim 1, wherein said broadcast signal is an OFDM (orthogonal frequency division multiplexing) modulated signal obtained by OFDM modulating said main signal and sub signals.

3. (Original) A digital broadcast receiving apparatus as set forth in claim 1, wherein said information source data is sound data obtained by encoding a sound signal.

4. (Original) A digital broadcast receiving apparatus as set forth in claim 1, wherein

pilot signals are contained in said sub signals, and further having
a correction circuit for correcting a distortion occurring in said main signal in accordance with a difference of said pilot signals detected by using said PRBS.

5. (Original) A digital broadcast receiving apparatus as set forth in claim 1, wherein

a transmission control signal is contained in said sub signals, and
said control circuit controls the decoding operation of said decoding circuit in accordance with said transmission control signal reproduced by using said PRBS.

6. (Previously presented) A digital broadcast receiving apparatus as set forth in claim 1, wherein

the sub signals are modulated using the PRBS generated based on the initial value set in accordance with a sub channel number at a broadcasting side, and

the control circuit sets an initial value for generating the PRBS in accordance with the sub channel number.

7. (Currently amended) A digital broadcast receiving apparatus for receiving a broadcast signal generated by combining a main signal comprising a data series generated in accordance with information source data interleaved and encoded using a parameter set in accordance with a frequency of a broadcast channel and sub signals comprising a transmission control signal modulated using a predetermined random sequence generated based on an initial value set in accordance with a sub channel number at a transmission side, and for reproducing said information source data contained in the received broadcast signal, the transmission control signal comprising control information, the apparatus comprising:

a demultiplexing circuit for demultiplexing said main signal and sub signals in the received broadcast signal[[,]];

a random sequence generating circuit for generating the predetermined random sequence based on the initial value set in accordance with the sub channel number;

a sub signal reproduction circuit for reproducing the sub signals based on the predetermined random sequence;

a deinterleaving circuit for deinterleaving said demultiplexed main signal using the parameter set in accordance with the frequency of said broadcast channel $[[.]]$; and

a decoding circuit for decoding the deinterleaved main signal according to the control information.

8. (Previously presented) A digital broadcast receiving apparatus as set forth in claim 7, wherein

the parameter used for the interleaving on a transmission side is set in accordance with the broadcast channel, and

further having a control circuit for setting said parameter in said deinterleaving circuit in accordance with the received broadcast channel.

9. (Currently amended) A digital broadcast receiving apparatus as set forth in claim 7, wherein ~~the sub signals are modulated using~~ the predetermined random sequence comprises a PRBS (pseudo-random binary sequence) generated based on ~~an~~ the initial value set in accordance with $[[a]]$ the sub channel number at $[[a]]$ the transmission side, ~~and further having~~

~~a random sequence generating circuit for producing a PRBS based on the initial value set in accordance with the sub channel number and~~

~~a sub signal reproduction circuit for reproducing the sub signals based on the PRBS.~~

10. (Original) A digital broadcast receiving apparatus as set forth in claim 7, wherein said broadcast signal is an OFDM modulated wave.

11. (Original) A digital broadcast receiving apparatus as set forth in claim 7, wherein said information source data is sound data obtained by encoding a sound signal.

12. (Previously presented) A digital broadcast receiving apparatus as set forth in claim 7, wherein

pilot signals are contained in said sub signals, and further having

a correction circuit for correcting a distortion occurring in said main signal in accordance with a difference of said pilot signals detected by using a PRBS (pseudo-random binary sequence).

13. (Previously presented) A digital broadcast receiving apparatus as set forth in claim 7, wherein said control circuit controls the operation of said decoding circuit in accordance with said transmission control signal reproduced by using said predetermined random sequence.

14. (Previously presented) A digital broadcast receiving apparatus as set forth in claim 1, wherein said decoding circuit outputs an error signal when an error correction becomes disabled in accordance with a state of the received broadcast signal.

15-16. (Canceled)

17. (Previously presented) A digital broadcast receiving apparatus as set forth in claim 14, wherein said received broadcast signal is transmitted using a bandwidth of the frequency of the broadcast channel overlapping that of another channel and the initial value is changed based on a sub channel number of the other channel.

18. (Previously presented) A digital broadcast receiving apparatus for receiving a broadcast signal generated by combining sub signals modulated using a PRBS (pseudo-random binary sequence) generated based on an initial value set in accordance with a frequency of a broadcast channel by a signal transmission control use signal and a main signal generated based on information source data and reproducing the information source data contained in the received broadcast signal, having

a demultiplexing circuit for demultiplexing said main signal and sub signals in the received broadcast signal,

a random sequence generating circuit for generating said PRBS based on the initial value set in accordance with the frequency of said broadcast channel,

a sub signal reproduction circuit for reproducing said demultiplexed sub signals using said PRBS,

a control circuit for controlling the reproduction of said main signal in accordance with said reproduced demultiplexed sub signals, and

a decoding circuit for decoding said main signal under the control of said control circuit and outputting an error signal when an error correction becomes disabled in accordance with a state of the received broadcast signal,

wherein the received broadcast signal is transmitted using a bandwidth of the frequency of the broadcast channel overlapping that of another channel and the initial value is changed based on a sub channel number of the other channel.